



*Flying Operations*

**T-38 AND AT-38 AIRCREW EVALUATION  
CRITERIA**

**COMPLIANCE WITH THIS PUBLICATION IS MANDATORY**

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OPR: HQ AETC/DOVV  
(Maj Robert K. Downey)

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(Maj Gen Charles R. Henderson)  
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This instruction implements AFD 11-2, *Aircraft Rules and Procedures*, and AFI 11-202, Volume 2, *Aircrew Standardization/Evaluation Program*. It establishes procedures and criteria for evaluation of all aircrews performing duties in the T-38 and AT-38 (T/AT-38) aircraft. File a copy of all approved waivers with this instruction. **Attachment 1** contains a glossary of references, abbreviations and acronyms.

This AFI does not apply to the Air National Guard. Major commands (MAJCOM) will forward proposed MAJCOM-level supplements to this volume to HQ USAF/XOOT, through HQ AETC/DOVV, for approval prior to publication according to AFD 11-2, paragraph 4.2. After approval and publishing, the issuing MAJCOM will send one copy each of MAJCOM-level supplement to HQ USAF/XOOT, HQ AETC/DOVV, and user-MAJCOM OPRs. Field units below MAJCOM level will forward one copy of each supplement to their parent MAJCOM OPR for post-publication review. See paragraph 2. of this volume for guidance on submitting comments and suggesting improvements to this publication.

The Privacy Act of 1974 affects this instruction. The Privacy Act System Number F011 AF XO A, Air Force Operations Resource Management Systems (AFORMS), covers required information. The authority for maintenance of the system is 37 U.S.C. 301a (Incentive Pay); Public Law 92-204 (Appropriation Act for 1973, Section 715 ; Public Laws 93-570 (Appropriations Act for 1974), Public Act 93-294 (Aviation Career Incentive Act of 1974), DoD Directive 7730.57 (Aviation Career Incentive Act and Required Annual Report; and Executive Order 9397).

This instruction contains references to the following field (subordinate level) publication which, until converted to departmental level publication, may be obtained from the respective MAJCOM publication office: MCMAN 11-238, Volume 1, (A)T-38 *Flying Fundamentals* (OPR: AETC TRSS/IDF).

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## Attachment 1—GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION 42

### *Section A—General Information*

**1. Conducting Evaluations.** All evaluations will be conducted in accordance with the provisions of AFI 11-202, Volume 2, and this instruction.

**2. Recommended Changes and Waivers.** Submit suggested improvements to this instruction on AF Form 847, **Recommendation for Change of Publication**, to the parent MAJCOM through standardization/evaluation (stan/eval) channels. Parent MAJCOMs will forward approved recommendations to HQ AETC/DOVV IAW AFPD 11-2; paragraph 2.4.1, AF/XO is approval authority for changes/revisions to this instruction. MAJCOM DO is waiver authority for this instruction. Waiver requests may be submitted in message or memorandum format.

### **3. Procedures:**

3.1. Flight examiners (FE) will use the evaluation criteria contained in **Section C** for conducting flight and emergency procedure evaluations (EPE). To ensure standard and objective evaluations, FEs must become thoroughly familiar with the prescribed evaluation criteria.

3.2. When available, recording devices (audio or video tape recorders [AVTR], etc.) should be used to reconstruct or evaluate the mission.

3.3. Unless specified, the examinee or FE may fly in any flight position or seat (to include chase) that will best enable the FE to conduct a thorough evaluation. The FE will normally occupy the front cockpit (FCP) during periodic instructor mission evaluations for rear cockpit (RCP) qualified instructor pilots (IP).

3.4. Prior to the flight, the FE will brief the examinee on the purpose of the evaluation and how it will be conducted. The examinee will accomplish required flight planning in accordance with the flight position during the evaluation. Higher headquarters (HHQ) FEs (and unit FEs as determined locally) will be furnished a copy of necessary mission data, mission materials, and maps if required.

3.5. Areas required by AFI 11-202, Volume 2 are indicated in **Section B** of this instruction. When it is impossible to evaluate a required area in-flight, it will be evaluated by an alternate method (that is, in a simulator or cockpit procedure trainer [CPT] or by oral examination) to complete the evaluation. The alternate evaluation will be documented in the Examiner's Remarks in the Comments block of the AF Form 8, **Certificate of Aircrew Qualification**.

3.6. The FE will thoroughly debrief all aspects of the flight. This debrief will include the examinee's overall rating, specific deviations, area grades assigned (if other than qualified), and any required additional training. A squadron supervisor must be debriefed on all checkrides. Additionally, a squadron supervisor must attend the debrief if the overall grade is Q-3.

#### 4. Grading Instructions:

4.1. Tolerances in performance parameters are based on conditions of smooth air and a stable aircraft. Momentary deviations from tolerances will not be considered in grading, provided the examinee applies prompt corrective action and such deviations do not jeopardize flying safety. Consider cumulative deviations when determining the overall grade.

4.2. When grading criteria specify that the airspeed or angle of attack (AOA) be evaluated and the flight manual lists only a minimum, maximum, recommended airspeed, or AOA for that area, the examinee will brief the desired airspeed or AOA.

4.3. Compare examinee performance for each area accomplished during the evaluation with the standards provided in this volume and assign an appropriate grade for the area. Derive the overall flight evaluation grade (Q-1, Q-2, or Q-3) from the area grades, based on a composite for the observed events and tasks according to AFI 11-202, Volume 2 and this instruction.

4.3.1. FEs will use the grading criteria in this instruction (**Table 2.**) to determine individual area grades. FE judgment must be exercised when the wording of areas is subjective and specific situations are not covered.

4.3.2. If the examinee receives an unqualified area grade in any of the critical areas identified in this volume, an overall unqualified grade will be assigned.

4.3.3. FE judgment will be the determining factor in arriving at the overall grade.

4.3.4. The following grading criteria will be used to grade individual items on all evaluations:

4.3.4.1. (Q) Performance is correct. Quickly recognizes and corrects errors.

4.3.4.2. (Q-) Performance is safe, but indicates limited proficiency. Makes errors of omission or commission.

4.3.4.3. (U) Performance is unsafe or indicates lack of knowledge or ability.

4.3.5. The general evaluation criteria in **Figure 1**, apply during all phases of flight (except as noted for specific events and instrument final approaches):

**Figure 1. General Evaluation Criteria.**

Q	Q-	U
Altitude +/- 200 feet	Altitude +/- 300 feet	Exceeded Q- limits
Airspeed +/- 5%	Airspeed +/- 10%	
Course +/- 5 degrees/3 NM (whichever is greater)	Course +/- 10 degrees/5 NM (whichever is greater)	
TACAN Arc +/- 2 NM	TACAN Arc +/- 3 NM	

**5. Emergency Procedures Evaluation.** If available and configured appropriately, a flight simulator may be used to conduct the requisite EPE for the instrument/qualification evaluation. If a simulator is not used, the EPE will be conducted in an appropriate CPT. If a CPT is not used, the EPE will be given orally.

5.1. The following items will be included on EPEs:

5.1.1. Aircraft general knowledge.

5.1.2. Emergency procedures. Evaluate all BOLDFACE procedures and a minimum of one emergency procedure per phase of flight.

5.1.3. Unusual attitude recoveries.

5.1.4. Evaluate a minimum of one approach and use of standby or emergency instruments.

5.1.5. Alternate or divert airfields. Evaluate a minimum of one approach at other than home base.

5.2. For EPEs graded qualified with additional training, the FE will indicate whether the additional training must be accomplished before the next flight. Additional training and reevaluations will be accomplished according to AFI 11-202, Volume 2.

**6. Completion of AF Form 8.** Record and certify aircrew member qualification using the AF Form 8 IAW AFI 11-202, Volume 2.

6.1. Comments block. All comments, with the exception of restrictions and exceptionally qualified designation (if used), *will* be placed on the reverse side of the AF Form 8.

6.2. Documentation of Weapons Employment Results. For mission evaluations, weapons employment results will be documented in the Examiner's Remarks in the Comments block of the AF Form 8 under "mission description."

6.2.1. Air-to-Surface. FEs will evaluate weapons employment results based upon the examinee's ability to achieve valid release parameters for the event flown. FEs should refer to the Introduction to Fighter Fundamentals (IFF) Instructor Training Syllabus for event parameter tolerances. Document results, using "successful" or "unsuccessful."

6.2.2. Air-to-Air. Record the number of simulated missile or gun firing “attempted” and the number that were “valid.” Include entries for each type of simulated ordnance employed.

**7. Records Disposition.** Records will be disposed of according to AFMAN 37-139, *Records Disposition Schedule*.

## ***Section B—Evaluation Requirements***

### **8. Guidelines:**

8.1. All evaluations will follow the guidelines set in AFI 11-202, Volume 2, chapter 4. Evaluation requirements are shown in **Table 1.** (Pilot Evaluations) of this instruction. They are divided into the following areas: general, contact, instrument, formation, navigation, low-level procedures, tactical employment, and ground evaluation. Use all areas for criteria applicable to the events performed on the evaluation.

8.2. In the table, areas indicated with an “R” are required items for that evaluation. A required area is a specific area that must be evaluated to complete the evaluation. All required areas must be included in the flight evaluation profile. However, if it is impossible to accomplish a required area in flight, the FE may elect to evaluate the areas by an alternate method (for example, simulator, CPT, orally, etc.) in order to complete the evaluation. If the FE determines the required item cannot be adequately evaluated by an alternate method, the examinee will require an additional flight to complete the evaluation.

8.3. Areas indicated with an asterisk (\*) are critical items for that evaluation.

**9. Pilot Instrument/Qualification Evaluation.** A mission flown according to instrument flight rules (IFR) fulfills the objective of the instrument/qualification evaluation. To the maximum extent possible, this evaluation will include approaches at airfields other than the examinee’s home field. The examinee will complete the following requisites:

- 9.1. Instrument refresher course (IRC) training.
- 9.2. Instrument examination.
- 9.3. Closed- and open-book qualification examinations.
- 9.4. EPE.
- 9.5. BOLDFACE examination.

**10. Pilot Mission Evaluation.** Scenarios that represent unit tasking satisfy the requirements of this evaluation. The profiles will be designed to evaluate the training, flight position, and special qualifications as well as basic airmanship of the examinee. Initial mission evaluations will be given in the primary mission of the unit. To the maximum extent possible, IPs and flight leads (FL) will brief and lead the mission. The FE may require the FL to fly the wing position to perform events from the wing position. Minimum ground phase requisites are an EPE and BOLDFACE. If the instrument/qualification and mission evaluation eligibility periods overlap, a single EPE fulfills each requirement if it is accomplished within both eligibility periods.

- 10.1. Examinees will only be evaluated on those missions routinely performed by the pilot.

10.2. In air-to-surface, the examinee will normally lead a four-ship surface attack sortie with the FE in the RCP.

10.3. In air-to-air, the examinee will normally lead a basic fighter maneuver (BFM) sortie. However, any air-to-air profile the examinee is qualified to fly may be flown. The FE will normally occupy the RCP of the examinee's aircraft.

10.4. T-38 mission areas are contact, formation, instrument/navigation, and low-level.

**11. Formal Course Evaluation.** Syllabus evaluations will be flown according to syllabus mission profile guidelines (if stated) or on a mission profile developed from syllabus training objectives. To complete the evaluation, formal course guidelines may be modified, based on local operating considerations or FE judgment. Syllabus tasks not addressed in [Section C](#) will be evaluated using criterion reference objectives (CRO) from the appropriate syllabus.

**12. Instructor Evaluation.** Instructor evaluations will be conducted according to AFI 11-202, Volume 2, chapter 4. Flight evaluations will include a thorough evaluation of the examinee's instructor knowledge and ability.

12.1. All initial RCP landing qualification evaluations will include satisfactory demonstration of:

12.1.1. Overhead or straight-in and emergency patterns.

12.1.2. Simulated single-engine (SE), no-flap (NF), and normal landing.

12.2. IPs will accomplish the RCP landing qualification during either the combined instrument/qualification sortie or the mission evaluation sortie or as defined in paragraph [12.3](#).

12.3. The RCP landing qualification may be conducted independently of another evaluation. When the RCP landing qualification is evaluated during another sortie as a requisite for a flight evaluation, record "SPOT" in the flight phase block on the AF Form 8 and align the expiration date with the expiration date of the current evaluation in which the examinee would normally complete this requirement. Use the Examiner's Remarks of the Comments block to further describe the evaluation as a "Rear Cockpit Landing Qualification" evaluation.

**Table 1. Pilot Evaluations.**

		Type of Evaluation (See Legend)						
Area	Title	1	2	3	4	5	6	7
GENERAL								
1	Mission Planning	R	R	R				
2	Chart Preparation							R
3	Flight Briefing (if applicable)	R	R	R				
4	Ground Operations	R	R	R	R	R	R	R
5	Takeoff	R						
6	Departure	R					R	
7	Clearing							
8	Level Off	R						
9	Cruise/Navigation	R						
10	In-flight Checks	R	R	R				
11	In-flight Planning	R	R	R				
12	Radio/IFF Procedures	R	R	R				
13	Crew Coordination (if applicable)	R	R	R	R	R	R	R
14	Weapons System/Checks							
15	Airwork/Advanced Handling (note 1)			R				
16	Debriefing		R	R				
17	Airmanship *	R	R	R	R	R	R	R
18	Safety *	R	R	R	R	R	R	R
19	Situational Awareness *	R	R	R	R	R	R	R
CONTACT								
20	Traffic Pattern Stalls				R			
21	Full Aft Stick Stalls							
22	Slow Flight							
23	Nose Low Recovery (note 2)	R			R			
24	Nose High Recovery (note 2)	R			R			
25	Max Performance Climbing Turns							
26	Aerobatics				R			
27	Letdown and Traffic Entry							
28	Normal Pattern/Land	R						
29	Normal Pattern/Land (St-In)							
30	Emergency Pattern				R			
31	SE Pattern/Land	R						

Area	Title	Type of Evaluation (See Legend)						
		1	2	3	4	5	6	7
32	NF Pattern/Land	R						
33	NF Pattern/Land (St-In)							
34	Go Around							
35	SE Go Around							
36	Touch And Go Procedures							
37	Closed Traffic							
38	Breakout And Reentry							
39	(not used)							
<b>INSTRUMENT</b>								
40	En Route Aircraft Control							
41	Instrument Climb/Descent							
42	Airspeed Change							
43	Vertical S							
44	Steep Turns							
45	Unusual Attitude Recoveries	R						
46	Wingover							
47	Aileron Roll							
48	Fix to Fix							
49	Holding							
50	Penetration (note 3)	R						
51	En Route Descent (note 3)	R						
52	Course/Arc Interceptions							
53	Maintaining Course/Arc							
54	Precision Approach (note 4)	R					R	
55	ILS							
56	PAR							
57	Nonprecision Approach	R					R	
58	ASR							
59	TACAN							
60	Localizer							
61	Low Altitude Approach							
62	Circling Approach							
63	Missed Approach							
64	Transition To Land/Land							



Area	Title	Type of Evaluation (See Legend)						
		1	2	3	4	5	6	7
65	Pattern And Landing							
66-69	(not used)							
<b>FORMATION</b>								
<b>A. GENERAL</b>								
70	Position Change							
71	Visual Signals							
<b>B. LEAD</b>								
72	Takeoff							
73	Departure							
74	Fingertip					R		
75	Echelon							
76	Close Trail							
77	Extended Trail							
78	Tactical					R		
79	Pitchout							
80	Rejoin							
81	Descent and Traffic Entry							
82	Formation Approach							
83	Formation Landing							
84	Fluid Maneuvering							
<b>C. WING</b>								
85	Takeoff							
86	Interval Takeoff							
87	Fingertip					R		
88	Echelon							
89	Route							
90	Crossunder							
91	Close Trail							
92	Extended Trail							
93	Pitchout							
94	Turning Rejoin #2/#3/#4							
95	Straight Ahead Rejoin							
96	Tactical					R		
97	Tactical Rejoin #2/#3/#4					R		

Area	Title	Type of Evaluation (See Legend)						
		1	2	3	4	5	6	7
98	Tactical Straight Ahead Rejoin							
99	Breakout							
100	Overshoot							
101	Formation Approach							
102	Formation Landing							
103	Fluid Maneuvering							
104	Fighting Wing							
105-109	(not used)							
<b>NAVIGATION</b>								
110	AF Form 70 Maintenance**							
111	In-flight Computations							
112	Maintaining Course (VFR)							
113	VFR Arrival							
114-119	(not used)							
<b>LOW-LEVEL PROCEDURES</b>								
120	Route Entry							R
121	Altitude Control							R
122	Time Control							R
123	Course Control							R
124	Wind Analysis							
125	DR Procedures							
126	Terrain Reading							
127	In-flight Data/Fuel Procedures							R
128	Crew Coordination							R
129	Escape/Recovery							
130	IFR Approach/Landing							
131	VFR Pattern/Landing							
132-139	(not used)							
<b>TACTICAL EMPLOYMENT</b>								
<b>A. GENERAL</b>								
140	Tactical Plan		R	R				
141	Tactical Execution		R	R				
142	GCI/AWACS/CF Interface							
143	Radio Transmissions		R	R				

Area	Title	Type of Evaluation (See Legend)						
		1	2	3	4	5	6	7
144	Visual Lookout		R	R				
145	Mutual Support (if applicable)		R	R				
146	Tactical Navigation		R	R				
147	Ingress							
148	Egress							
149	Combat Separation							
150	Timing							
151	Training Rules/ROE		R	R				
152	Threat Reactions							
153	In-flight Report							
154	Weapons System Utilization							
B. AIR-TO-AIR								
155	Offensive Maneuvering							
156	Defensive Maneuvering							
157	Weapons Employment							
C. AIR-TO-SURFACE								
158	Target Acquisition							
159	Weapons Employment							
160	Range Procedures							
161-169	(not used)							
GROUND EVALUATION								
170	Emergency Procedures	R	R	R	R	R	R	R
171	General Knowledge	R	R	R	R	R	R	R
172	Instruction (if applicable)	R	R	R	R	R	R	R
173	Publications	R	R	R	R	R	R	R

**LEGEND:** All 'Mission' evaluations will be documented as "MSN" in the flight phase of the AF Form 8. Use the Examiner's Remarks of the Comments block to further describe the evaluation as referenced below.

1 - Pilot Instrument/Qualification Evaluation

2 - Pilot Air-to-Surface Mission Evaluation

3 - Pilot Air-to-Air Mission Evaluation

4 - Pilot Contact Mission Evaluation

5 - Pilot Formation Mission Evaluation

6 - Pilot Instrument/Navigation Mission Evaluation

7 - Pilot Low-level Mission Evaluation/Formation Low-level

R - Required Area

\* - Critical Area

\*\* - AF Form 70,

**NOTES (AT-38):**

1. Airwork or advanced handling is required for pilots receiving instrument/qualification evaluations and is not required for those receiving mission evaluations. Units will determine appropriate proficiency maneuvers for type of aircraft and (or) pilot experience levels. Examples are aerobatics, confidence maneuvers, approaches to stalls, BFM or formation, and advanced handling characteristics.
2. Unusual attitude recoveries. Do not perform unusual attitude recoveries if chasing the instrument evaluation. Unusual attitude recoveries, if evaluated in dual-seat aircraft in flight, will be performed with an FE in the aircraft.
3. Required to evaluate either the Penetration or En Route Descent on the Pilot Instrument/Qualification Evaluation.
4. Both a PAR and an ILS must be evaluated if equipment and facilities are available. However, if facilities or equipment are not available, the flight evaluation may be completed as long as one precision approach is flown.

***Section C—Evaluation Criteria***

**13. Evaluations:**

13.1. Instructor Evaluations. To initially qualify as an instructor, the pilot must successfully complete a dedicated initial instructor evaluation. Subsequently, crewmembers designated as instructors will be evaluated on their ability to instruct during all periodic evaluations. Accomplish instructor evaluations on actual instructional missions whenever possible. When students are not available or mission requirements/crew composition requirements prevent inclusion of students, the flight examiner may serve as the student for the purpose of evaluating the examinee's instructional ability.

13.2. During T-38 mission evaluations and instrument/qualification evaluations at Pilot Instructor Training (PIT), specialized undergraduate pilot training (SUPT), and Euro-NATO joint jet pilot training (ENJJPT), examinees will occupy the crew position they normally occupy when performing instructor duties. *EXCEPTION:* T-38 PIT IPs at the 12 FTW and 80 FTW will occupy the RCP for instrument/qualification evaluations.

13.3. T-38 first pilots (FP) will occupy their normal crew position (the front seat in the T-38) during the instrument/qualification evaluation.

**Table 2. Evaluation Criteria.**

	<b>Grading Criteria</b>		
<b>Grading Area</b>	<b>Q</b>	<b>Q-</b>	<b>U</b>
Area 1. Mission Planning:	Developed a sound plan to accomplish the mission. Checked all factors applicable to flight according to applicable directives. Aware of alternatives available, if flight cannot be completed as planned. Read and initialed for all items in the FCIF or read files. Prepared at briefing time.	Made minor errors or omissions that did not detract from mission effectiveness. Demonstrated limited knowledge of performance capabilities or approved operating procedures or rules in some areas.	Made major error(s) or omission(s) that would have prevented a safe or effective mission. Displayed faulty knowledge of operating data or procedures. Did not review or initial FCIF. Not prepared at briefing time.
Area 2. Chart Preparation:	Prepared chart according to applicable directives.	Made minor errors or omissions that did not detract from mission effectiveness.	Made major errors or omissions that would have prevented a safe or effective mission.
Area 3. Flight Briefing:			
a. Organization:	Well organized and presented in a logical sequence. Concluded briefing in time to allow for element or crew briefing (if applicable) and preflight of personal equipment, aircraft and ordnance.	Events out of sequence, hard to follow, some redundancy.	Confusing presentation. Did not allow time for element or crew briefing (if applicable) and preflight of personal equipment, aircraft and ordnance.
b. Presentation:	Presented briefing in a professional manner. Effective use of training aids. Flight members clearly understood mission requirements.	Did not make effective use of available training aids. Dwelled on nonessential mission items.	Did not use training aids. Redundant throughout briefing. Lost interest of flight members Presentation created doubts or confusion.
c. Mission Coverage:	Established objectives for the mission. Presented all events and technique discussion for accomplishing the mission.	Omitted some minor training events. Limited discussion of techniques.	Did not establish objectives for the mission. Omitted major training events or did not discuss techniques.

Grading Area	Grading Criteria		
	Q	Q-	U
Area 4. Ground Operations:	Established and adhered to station, start engine, taxi and takeoff times to assure thorough preflight, check of personal equipment, crew briefing, etc. Accurately determined readiness of aircraft for flight. Performed all checks and procedures prior to takeoff in accordance with approved checklists and applicable directives.	Same as above except for minor procedural deviations that did not detract from mission effectiveness.	Omitted major items of the appropriate checklist. Major deviations in procedure that would prevent safe mission accomplishment. Failed to accurately determine readiness of aircraft for flight. Crew errors directly contributed to a late takeoff, which degraded the mission or made it noneffective.
Area 5. Takeoff:	Maintained smooth aircraft control throughout takeoff. Performed takeoff in accordance with flight manual procedures and techniques.	Minor flight manual procedural or technique deviations. Control was rough or erratic.	Takeoff potentially dangerous. Exceeded aircraft or systems limitations. Raised gear too early. Failed to establish proper climb attitude. Over-controlled aircraft resulted in excessive deviations from intended flightpath.
Area 6. Departure: a. Instrument/VFR:	Performed departure as published or directed and complied with all restrictions.	Minor deviations in airspeed and navigation occurred during completion of departure.	Failed to comply with published or directed departure instructions.
b. Trail Departure/ Rendezvous:	Trail departure or rendezvous accomplished using proper procedures and techniques. Provided efficient commentary throughout departure and (or) rendezvous.	Minor deviations from established or appropriate procedures.	Unable to accomplish trail departure or rendezvous. Gross overshoot or excessively slow rendezvous caused by poor technique or procedure. Missed rendezvous.
Area 7. Clearing:	Continued through all phases of flight. Included all visual and audio sources. Timely actions taken to reduce potential conflicts.	Intermittent throughout sortie. Slow to take actions to reduce possible conflicts.	Clearing was inadequate and actions were not taken to reduce possible conflicts.

	<b>Grading Criteria</b>		
<b>Grading Area</b>	<b>Q</b>	<b>Q-</b>	<b>U</b>
Area 8. Level Off:	Level off was smooth. Promptly established proper cruise airspeed.	Level off was erratic. Slow in establishing proper cruise airspeed.	Level off was erratic. Exceeded Q- limits. Excessive delay or failed to establish proper cruise airspeed. Failed to reset altimeter, as required.
Area 9. Cruise/Navigation:	Demonstrated satisfactory capability to navigate, using all available means. Used appropriate navigation procedures. Ensured NAVAIDs were properly tuned, identified, and monitored. Complied with clearance instructions. Aware of position at all times. Remained within the confines of assigned airspace.	Minor errors in procedures or use of navigation equipment. Some deviations in tuning, identifying, and monitoring NAVAIDs. Slow to comply with clearance instructions. Had some difficulty in establishing exact position and course.	Major errors in procedures or use of navigation equipment. Could not establish position. Failed to recognize checkpoints or adjust for deviations in time and course. Did not remain within the confines of assigned airspace. Exceeded parameters for Q-.
Area 10. In-flight Checks:	Performed all in-flight checks as required.	Same as qualified, except for minor deviations or omissions during checks. Did not detract from mission accomplishment.	Did not perform in-flight checks or monitor systems to the degree that an emergency condition would have developed if allowed to continue uncorrected.
Area 11. In-flight Planning:	Actively monitored fuel throughout the mission. Complied with all established fuel requirements. Adhered to briefed Joker or Bingo calls.	Errors in fuel management procedures that did not prevent mission accomplishment.	Failed to monitor fuel status or comply with established fuel requirements. Poor fuel management prevented mission accomplishment. Did not adhere to briefed fuel requirements.

Grading Area	Grading Criteria		
	Q	Q-	U
Area 12. Radio/IFF Procedures:	Complete knowledge of and compliance with correct comm, and IFF procedures. Transmissions concise, accurate, and utilized proper terminology. Complied with and acknowledged all required instructions. Thoroughly familiar with communications security requirements.	Occasional deviations from correct procedures required retransmissions or resetting codes. Slow to initiate or missed several required calls. Minor errors or omissions did not significantly detract from situational awareness, threat warning, or mission accomplishment. Transmissions contained extraneous matter, were not in proper sequence or used non-standard terminology.	Incorrect procedures or poor performance caused confusion and jeopardized mission accomplishment. Omitted numerous required radio calls. Inaccurate or confusing terminology significantly detracted from situational awareness, threat warning, or mission accomplishment
Area 13. Crew Coordination:	Effectively coordinated with other crewmember throughout the mission. Contributed to the smooth and efficient operation of the aircrew.	Crew coordination adequate to accomplish the mission. Deficiencies in crew communication or interaction resulted in degraded crew efficiency.	Poor crew coordination seriously degraded mission accomplishment or safety of flight.
Area 14. Weapons System/Checks	Completed all checks. Thorough knowledge and performance of weapons system checks.	Completed most weapons system checks. Limited knowledge of checks. Unsure of systems degradation due to check failure.	Failed to complete weapons system checks. General lack of knowledge on how to perform weapons system checks. Unable to determine systems degradation due to check failures.
Area 15. Airwork/ Advanced Handling/ Tactical Maneuvering:	Aircraft control during maneuvers was positive and smooth. Maneuvers performed according to directives and appropriate to the situation or environment. Adhered to established procedures.	Aircraft control during maneuvers not always smooth and positive, but adequate. Minor procedure deviations or lack of full consideration for the tactical situation.	Aircraft control erratic. Aircraft handling caused unsatisfactory accomplishment of maneuvers. Exceeded Q- criteria. Failed to consider the tactical situation. Temporary loss of aircraft control.



	Grading Criteria		
Grading Area	Q	Q-	U
Area 16. Debriefing:	Thoroughly debriefed the mission (or applicable portions). Compared mission results with initial objectives established for the mission. Debriefed deviations. Offered corrective guidance as appropriate.	Limited debriefing. Did not thoroughly discuss performance in relationship to mission objectives. Did not debrief all deviations.	Did not debrief mission deviations or offer corrective guidance.
Area 17. Airman-ship ( <b>Critical</b> ):	Executed assigned mission in a timely, efficient manner. Conducted the flight with a sense of understanding and comprehension.	( <b>NOTE</b> : Because this area is critical, Q- is not applicable.)	Decisions or lack thereof resulted in failure to accomplish the assigned mission. Demonstrated poor judgment to the extent that safety could have been compromised.
Area 18. Safety ( <b>Critical</b> ):	Aware of and complied with all safety factors required for safe aircraft operation and mission accomplishment.	( <b>NOTE</b> : Because this area is critical, Q- is not applicable.)	Was not aware of or did not comply with all safety factors required for safe operation or mission accomplishment. Did not adequately clear. Operated the aircraft in a dangerous manner. Knowingly violated established procedures or flight restrictions.
Area 19. Situational Awareness ( <b>Critical</b> ):	Accurately analyzed flight conditions. Planned and acted in a timely manner to ensure safe mission accomplishment. Prioritization of flight requirements assured mission success.	( <b>NOTE</b> : Because this area is critical, Q- is not applicable.)	Misanalysis of flight conditions and failure to prioritize compromised safety or mission accomplishment.

Grading Area	Grading Criteria		
	Q	Q-	U
Areas 20-21. Stall Recognition and Recovery:	Recognized approach to stall indications and recovered properly. Recovered to level flight with minimum loss of altitude. Recognized secondary stall, if entered, and recovered properly. Did not overspeed gear and (or) flaps. Interpreted AOA correctly during approach to and recovery from stalls. Recognized required aircraft control inputs to prevent entering a stall	Delayed recovery beyond the definite increase in buffet intensity. Did not recognize secondary stall and did not recover properly.	Failed to recognize stall indications. Misapplied flight control and throttle inputs in a manner that aggravated the stalled condition, resulting in excessive altitude loss. At anytime exceeded an aircraft limit.
Area 22. Slow Flight:	Airspeed -3 to +5 KIAS of desired airspeed.	Airspeed $\pm 10$ KIAS of desired airspeed.	Maintained deviations in excess of Q- criteria.
Areas 23-24. Nose-High or Nose-Low Recoveries:	Recovered to level flight expeditiously without stall or exceeding aircraft limitations and with minimum altitude loss. Use correct instrument flight references and procedures according to AFMAN 11-217, Volume 1, <i>Instrument Procedures</i> .	Slow to analyze attitude or erratic in recovery to level flight. Slow to recognize or use the proper power setting and configuration.	Exceeded Q- criteria.
Area 25. Max Perf Climbing Turns:	Aircraft control during maneuver positive and smooth.	Aircraft control during maneuver not always smooth and positive, but adequate.	Aircraft control erratic. Aircraft handling caused unsatisfactory accomplishment of maneuvers

Grading Area	Grading Criteria		
	Q	Q-	U
<p>Area 26. Aerobatics:</p> <p>Perform aerobic maneuvers with the given entry parameters, to include:</p> <ul style="list-style-type: none"> <li>- Chandelle</li> <li>- Lazy Eight</li> <li>- Barrel Roll</li> <li>- Aileron Roll</li> <li>- Cloverleaf</li> <li>- Loop</li> <li>- Immelmann</li> <li>- Cuban Eight</li> <li>- Split S</li> <li>- Sliceback</li> </ul>	<p>Maneuvers were flown according to MCMAN 11-238, Volume 1 (projected to be AFTTP XXX), descriptions to include the following:</p> <ul style="list-style-type: none"> <li>- Attaining briefed entry parameters prior to beginning the maneuver,</li> <li>- Primary emphasis during aerobic maneuvers on use of outside references,</li> <li>- Smooth, positive, and coordinated maneuvers, and</li> <li>- Entries planned to remain within area boundaries.</li> </ul>	<p>Entry parameters not met and energy levels not adequate to properly accomplish maneuver. Aircraft control during maneuvers adequate, but not smooth and positive. Minor procedural deviations occurred.</p>	<p>Significantly missed entry parameters. Maneuvers not flown according to MCMAN 11-238, Volume 1 (projected to be AFTTP XXX), descriptions. Maneuver aircraft control erratic. Aircraft handling caused unsatisfactory accomplishment of maneuvers.</p>
<p>Area 27. Letdown and Traffic Entry:</p>	<p>Performed letdown as published or directed and complied with all restrictions.</p>	<p>Minor deviations in air-speed and navigation occurred during completion of letdown.</p>	<p>Failed to comply with published directed letdown instructions or directives.</p>
<p>Areas 28-29. Normal Pattern/Landing:</p>	<p>Performed on-speed landings according to procedures and techniques outlined in the flight manual, operational procedures, and local directives. Touchdown point: 150 feet to 1000 feet from the runway threshold.</p>	<p>Performed landings with minor deviations to air-speed, procedures and techniques outlined in the flight manual, operational procedures, and local directives. Touchdown point: 0 feet to 149 feet or 1001 feet to 1500 feet from the runway threshold.</p>	<p>Landing not performed according to procedures and techniques outlined in the flight manual, operational procedures, and local directives. Touchdown point exceeded Q-criteria.</p>

Grading Area	Grading Criteria		
	Q	Q-	U
Areas 30. Emergency Traffic Pattern: (Prior to configuration. Includes simulated single engine, varied flap settings, as appropriate.)	Complied with all flight manual and operational procedures. Maintained safe maneuvering airspeed or AOA. Flew approach compatible with the situation. Adjusted approach for type of emergency simulated.	Minor procedural errors. Erratic airspeed or AOA control. Errors did not detract from safe handling of the situation.	Did not comply with applicable procedures. Erratic airspeed or AOA control compounded problems associated with the emergency. Flew an approach that was incompatible with the simulated emergency. Did not adjust approach for simulated emergency.
Areas 31-33. Emergency Approach/ Landing (configuration through rollout):	Used sound judgment. Configured at the appropriate position or altitude. Flew final based on recommended procedures, airspeed or AOA, and glidepath. Smooth, positive control of aircraft. Touchdown point was according to applicable guidance and permitted safe stopping in available runway. Arrestment gear could have been used if appropriate.	Safety not compromised. Configured at a position and altitude that allowed for a safe approach. Could have landed safely with the following deviations: - Minor deviations from recommended procedures, airspeed or AOA, and altitudes. - Unnecessary maneuvering due to minor errors in planning or judgment.	Judgment unsafe. Major deviations from recommended procedures, airspeed or AOA, and altitudes. Required excessive maneuvering. Could not have landed safely. Touchdown point was not according to applicable guidance and would not allow for safe stopping on available runway. Arrestment gear could not have been used.
Area 34. Go-Around:	Initiated and performed go-around promptly in accordance with flight manual and operational procedures and directives.	Slow to initiate go-around or procedural steps.	Did not self-initiate go-around when appropriate or directed. Techniques unsafe or applied incorrect procedures.
Area 35. SE Go-Around:	Initiated and performed SE go-around promptly in accordance with flight manual and operational procedures and directives.	Slow to initiate SE go-around or procedural steps.	Did not self-initiate SE go-around when appropriate or directed. Techniques unsafe or applied incorrect procedures.

Grading Area	Grading Criteria		
	Q	Q-	U
Area 36. Touch and Go Procedures:	Performed on-speed landing according to procedures and techniques outlined in the flight manual, operational procedures, and local directives. Touchdown point: 150 feet to +1000 feet from the runway threshold. Smooth timely application of power and cross check of engine instruments and runway alignment during the takeoff phase.	Performed landing phase with minor deviations to procedures and techniques outlined in the flight manual, operational procedures, and local directives. Touchdown point: 0 feet to +149 feet or 1001 feet to 1500 feet from the runway threshold. Slow application of power and cross check of engine instruments and runway alignment during the takeoff phase.	Landing not performed according to procedures and techniques outlined in the flight manual, operational procedures, and local directives. Touchdown point exceeded Q-criteria. Late application of power and cross check of engine instruments and runway alignment during the takeoff phase. Failure to use full afterburner when appropriate.
Area 37. Closed Traffic:	Minimum of 240 KIAS for start of pull-up. Minimum of 200 KIAS during pull-up. Inside downwind-gear limiting airspeed to computed final turn airspeed. Rolled out at overhead pattern altitude $\pm$ 100 feet. Comply with published directives.	Airspeed: Pattern and initial same as Q- basic aircraft control.  Final Approach: -5 to +15 KIAS.  Altitude: Pattern and closed pull-up $\pm$ 200 feet.	Exceeded Q- criteria.
Area 38. Break-out and Reentry:	Complied with all flight manual and operational procedures. Maintained safe maneuvering airspeed or AOA and altitude.	Minor procedural errors. Erratic airspeed or AOA and altitude control. Errors did not detract from safe handling of the situation.	Did not comply with applicable procedures. Erratic airspeed or AOA and altitude control compromised safety.
Area 39. Not Used:			

Grading Area	Grading Criteria		
	Q	Q-	U
Area 40. En Route Aircraft Control:	Maintained smooth positive aircraft control at all times. Momentary deviations did not exceed 30 KIAS or .05 mach. Altitude within 200 feet and heading within 10 degrees.	Late control inputs resulted in occasional deviations. Maintained airspeed within 50 knots or .1 mach. Altitude within 300 feet and heading within 15 degrees.	Exceeded Q- criteria. Consistently deviated from heading altitude, and airspeed.
Area 41. Instrument Climb/Descent:	Aircraft control during instrument climb or descent was positive and smooth. Performed according to directives and appropriate to the situation or environment.	Aircraft control during instrument climb or descent not always smooth and positive, but adequate. Minor procedure deviations.	Aircraft control erratic during instrument climb or descent. Exceeded Q- criteria. Temporary loss of aircraft control.
Area 42. Airspeed Change:	Performed in a smooth and positive manner.	Slow to change airspeed when required.	Failed to make directed or required airspeed corrections.
Area 43. Vertical S:	$\pm 400$ feet VVI, $\pm 20$ KIAS, level off $\pm 200$ feet	$\pm 500$ feet VVI, $\pm 30$ KIAS, level off $\pm 300$ feet	Exceeded Q- criteria.
Area 44. Steep Turns:	Altitude $\pm 200$ feet, $\pm 20$ KIAS, rollout heading within 10 degrees.	Altitude $\pm 300$ feet, $\pm 30$ KIAS, rollout heading within 20 degrees.	Exceeded Q- criteria.
Area 45. Unusual Attitude Recoveries.	Smooth, positive recovery to level flight with correct recovery procedures.	Slow to analyze attitude, or erratic in recovery to level flight. Correct recovery procedures used.	Unable to determine attitude. Improper recovery procedures were used.
Area 46. Wingover:	Aircraft control during maneuvers was positive and smooth. Maneuvers performed according to directives.	Aircraft control during maneuvers not always smooth and positive, but adequate. Minor procedure deviations.	Aircraft control erratic. Aircraft handling caused unsatisfactory accomplishment of maneuver. Exceeded Q- criteria.
Area 47. Aileron Roll:	Aircraft control during maneuvers was positive and smooth. Maneuvers performed according to directives.	Aircraft control during maneuvers not always smooth and positive, but adequate. Minor procedure deviations.	Aircraft control erratic. Aircraft handling caused unsatisfactory accomplishment of maneuver. Exceeded Q- criteria.

	Grading Criteria		
Grading Area	Q	Q-	U
Area 48. Fix to Fix:	Small infrequent heading changes, positioned aircraft within 3 miles of desired fix.	Frequent or large heading changes, reached fix within 5 miles.	Exceeded Q- criteria.
Area 49. Holding:	Performed entry and holding according to published procedures and directives. Holding pattern limit exceeded by not more than:  VOR +/- 15 seconds TACAN +/- 2 NM  EAC +/- 2 minutes (if assigned)	Holding pattern limit exceeded by not more than:  VOR +/- 20 seconds TACAN +/- 3 NM  EAC +/- 3 minutes (if assigned)	Holding was not according to published procedures and directives. Exceeded criteria for Q- or holding pattern limits.
Area 50. Penetration (Initial Approach Fix to Final Approach Fix/Descent Point):	Performed the penetration and approach as published or directed and according to applicable flight manuals. Complied with all restrictions. Made smooth and timely corrections.	Performed the penetration and approach with minor deviations. Complied with all restrictions. Slow to make corrections.	Performed the penetration and approach with major deviations. Erratic corrections.
Area 51. En Route Descent:	Performed descent as directed, complied with all restrictions.	Performed descent as directed with minor deviations.	Performed descent with major deviations.
Areas 52-53. Intercept/ Maintain Course Arc:	Complied with basic control standards. Established a valid intercept. Maintained course $\pm 5$ degrees. Established valid arc or radial intercept. Maintained arc $\pm 2$ miles and completed fix-to-fix $\pm 3$ miles.	Maintained course $\pm 10$ degrees, not to exceed 3 miles. Maintained arc $\pm 4$ NM. Completed fix-to-fix 5 miles.	Exceeded Q- criteria.

Grading Area	Grading Criteria		
	Q	Q-	U
Area 54-55. Precision Approach (ILS):	<p>Performed procedures as published and according to applicable flight manual. Made smooth and timely corrections to azimuth and glide slope. Complied with decision height and position would have permitted a safe landing. Maintained proper or briefed AOA.</p> <p>Airspeed -5 to +10 knots</p> <p>Glideslope or azimuth within one dot.</p>	<p>Performed procedures with minor deviations. Slow to make corrections or initiate procedures. Position would have permitted a safe landing. Slow to correct to proper/briefed AOA.</p> <p>Airspeed -5 to +15 kts</p> <p>Glideslope within one dot low or two dots high</p> <p>Azimuth within two dots. Initiated missed approach (if applicable) at decision height, -0 to +50 feet.</p>	<p>Performed procedures with major deviations. Erratic corrections. Exceeded Q- limits. Did not comply with decision height or position at decision height would not have permitted a safe landing.</p>
Areas 54,56. Precision Approach (PAR):	<p>Performed procedures as directed and according to applicable flight manual. Smooth and timely response to controller instruction. Complied with decision height. Position would have permitted a safe landing. Maintained proper or briefed AOA. Maintained glidepath with only minor deviations.</p> <p>Airspeed -5 to +10 knots. Heading within 5 degrees of controller instruction.</p>	<p>Performed procedures with minor deviations. Slow to respond to controller's instructions. Position would have permitted a safe landing. Slow to correct to proper or briefed AOA. Improper glidepath control.</p> <p>Airspeed -5 to +15 knots. Heading within 10 degrees of controller instruction. Initiated missed approach (if applicable) at decision height, -0 to +50 feet.</p>	<p>Performed procedures with major deviations. Erratic corrections. Did not respond to controller instruction. Exceeded Q-limits. Did not comply with decision height and (or) position would not have permitted a safe landing. Erratic glidepath control</p>



Grading Area	Grading Criteria		
	Q	Q-	U
Areas 57-60. Nonprecision Approach:	Adhered to all published or directed procedures and restrictions. Used appropriate descent rate to arrive at MDA at or before VDP or MAP. Position would have permitted a safe landing. Maintained proper or briefed AOA.  Tolerances: Airspeed -5 to +10 knots Heading $\pm 5$ degrees (ASR) Course $\pm 5$ degrees at MAP Localizer less than one dot deflection MDA +100 to -0 feet	Performed approach with minor deviations. Arrived at MDA at or before the MAP, but past the VDP. Position would have permitted a safe landing. Slow to correct to proper or briefed AOA.  Tolerances: Airspeed -5 to +15 knots Heading $\pm 10$ degrees (ASR) Course $\pm 10$ degrees at MAP Localizer within two dots deflection MDA +150 to -50 feet	Did not comply with published or directed procedures or restrictions. Exceeded Q- limits. Maintained steady-state flight below the MDA, even though the -50-foot limit was not exceeded. Could not land safely from the approach. (The -50-foot tolerance applies only to momentary excursions.)
Area 61. Low Altitude Approach:	Performed the low altitude approach as published or directed and according to applicable flight manuals. Complied with all restrictions. Made smooth and timely corrections.	Performed the low altitude approach with minor deviations. Complied with all restrictions. Slow to make corrections.	Performed the low altitude approach with major deviations. Erratic corrections.
Area 62. Circling Approach:	Performed circling approach according to procedures and techniques outlined in the flight manual and AFMAN 11-217. Aircraft control was positive and smooth. Proper runway alignment.	Performed circling approach with minor deviations to procedures and techniques outlined in the flight manual and AFMAN 11-217. Aircraft control was not consistently smooth, but safe. Runway alignment varied, but go-around not required.	Circling approach not performed according to procedures and techniques outlined in the flight manual and AFMAN 11-217. Erratic aircraft control. Large deviations in runway alignment required go-around.

Grading Area	Grading Criteria		
	Q	Q-	U
Area 63. Missed Approach:	Executed missed approach as published directed. Completed all procedures according to applicable flight manual.	Executed missed approach with minor deviations. Slow to comply with published procedures, controller's instructions, or flight manual procedures.	Executed missed approach with major deviations or did not comply with applicable directives.
Area 64. Transition to land/land:	Timely and appropriate transition based on altitude and distance that the runway environment was visually acquired. Smoothly transitioned to the landing phase.	Slow transition to the landing phase. Excessive power and pitch inputs resulted in a long or short landing.	Late transition to the landing phase. Excessive power and pitch inputs resulted in an excessively long or short landing. Unable to land out of the approach.
Area 65. Pattern and Landing:	Performed landings according to procedures and techniques outlined in the flight manual, operational procedures, and local directives.	Performed landings with minor deviations to procedures techniques outlined in the flight manual, directives and operational procedures.	Landing not performed according to procedures and techniques outlined in the flight manual, operational procedures, and local directives.
Area 66. Instrument Interpretation:	Demonstrated satisfactory knowledge of basic instrument procedures, in-flight penetration, and approach procedures. Quickly analyzed flight instruments, determine aircraft attitude, and was knowledgeable of required action to correct the aircraft to level flight. Effectively monitored energy levels to ensure parameters were not exceeded.	Demonstrated limited knowledge of instrument procedures. Slow to recognize aircraft attitudes and corrective actions required, but able to determine proper corrections.	Displayed faulty or insufficient knowledge of instrument procedures. Unable to properly interpret instruments or recognize aircraft attitude.
Areas 67-69. Not Used.			

Grading Area	Grading Criteria		
	Q	Q-	U
Area 70. Position Change:	Lead was decisive and clearly directed lead change, with wingman in an appropriate position according to applicable flight manuals	Lead was slow to position the aircraft to perform the lead change.	Excessive time was taken to accomplish lead change. Procedure was not conducted according to directives.
Area 71. Visual Signals:	Was according to AFI 11-205, <i>Aircraft Cockpit and Formation Flight Signals</i> , and clearly visible to wingman.	Was according to AFI 11-205, but not clearly visible to wingman.	Not according to AFI 11-205 or not recognizable to wingman.
Area 72. Formation Takeoff (Lead):	Smooth on controls. Excellent wingman consideration.	Occasionally rough on controls. Not unsafe; but lack of wingman consideration made it difficult for wingman to maintain position.	Rough on the controls. Did not consider wingman.
Areas 73-77, 79-80. Formation (Lead): Perform two- and four-ship formation mission profile as lead to include: - Departure - Fingertip - Echelon - Close trail - Extended trail - Pitchout - Rejoin	Positively directed the flight during accomplishment of the mission and made timely comments to correct discrepancies when required. Made sound and timely in-flight decisions.  Completed profile in a smooth manner without exceeding wingman's capabilities and degrading flight safety. Fingertip maneuvering up to 3 Gs and 90 degrees of bank. Complied with MCMAN 11-238, Volume 1 (projected to be AFTTP XXX), maneuver parameter descriptions.	Limited flight management. In-flight decisions delayed mission accomplishment or degraded training benefit. Occasionally rough on controls. Not unsafe, but resulted in difficulty for wingman to maintain position. Did not always plan ahead and (or) hesitated in making decisions.  Some deviations in procedure.	Exceeded Q- criteria.

Grading Area	Grading Criteria		
	Q	Q-	U
Area 78. Tactical (Lead):	Maneuvered aircraft with a basic understanding of situational awareness and energy level.	Limited flight management. In-flight decisions delayed mission accomplishment or degraded training benefit.  Occasionally rough on controls. Not unsafe, but resulted in difficulty for wingman to maintain position. Did not always plan ahead and (or) hesitated in making decisions. Some minor deviations occurred	Exceeded Q- criteria.
Area 81. Descent and Traffic Entry:	Performed descent and traffic entry as published or directed and complied with all restrictions or directives.	Minor deviations in air-speed and navigation occurred during descent and traffic entry.	Failed to comply with published or directed descent and traffic entry instructions or directives.
Area 82-83. Formation Approach/Landing (Lead):	Smooth on controls and considered wingman. Complied with formation landing procedures. Flew approach as published or directed.	Occasionally rough on the controls. Not unsafe, but made it difficult for wingman to maintain position. Some procedural deviations. Slow to comply with published procedures.	Did not monitor wingman's position or configuration. Rough on the controls. No consideration for wingman. Placed wingman in unsafe situation. Major deviations in procedures. Did not fly approach as published or directed. Flight could not land from approach.

	Grading Criteria		
Grading Area	Q	Q-	U
Area 84. Fluid Maneuvering (Lead):	Smoothly accomplished to Level 3 profile according to MCMAN 11-238, Volume 1 (projected to be AFTTP XXX). Monitored wingman's position.	Limited flight management. In-flight decisions delayed mission accomplishment or degraded training. Occasionally rough on controls. Not unsafe, but resulted in difficulty for wingman to maintain position. Did not always plan ahead and (or) hesitated in making decisions. Some minor deviations occurred.	Exceeded Q- criteria.
Area 85. Formation Takeoff (Wing):	Maintained position; momentary deviations. Maintained safe separation and complied with lead's instructions.	Overcontrolled aircraft to the extent that formation position varied considerably.	Made abrupt position corrections. Did not maintain safe separation or formation position throughout the takeoff.
Area 86. Interval Takeoff:	Smooth on controls. Appropriate application of power ensured a timely rejoin.	Occasionally rough on controls. Not unsafe; but deviations delayed rejoin.	Misapplication of the controls excessively delayed rejoin or compromised safety.

Grading Area	Grading Criteria		
	Q	Q-	U
<p>Areas 87-95, 99-100. Formation (Wing):</p> <p>Perform two and four-ship formation on the wing to include:</p> <ul style="list-style-type: none"> <li>- Fingertip</li> <li>- Echelon</li> <li>- Route</li> <li>- Crossunder</li> <li>- Close Trail</li> <li>- Extended Trail</li> <li>- Pitchout</li> <li>- Rejoin</li> <li>- Breakout</li> <li>- Overshoot</li> </ul>	<p>Fingertip: Maintained wingtip separation within +7 feet, within <math>\pm 4</math> feet vertically, and within <math>\pm 4</math> feet longitudinally with smooth positive control inputs not to exceed 3 Gs and 90 degrees of bank.</p> <p>Crossunders: Completed in a timely manner.</p> <p>Route: Maintained approximate position according to other duties.</p> <p>Echelon Turn: Same as fingertip through 180 degrees of turn.</p> <p>Pitchouts: Rolled out at approximately same altitude as lead, in trail.</p> <p>Rejoins: Completed in a timely manner (including overshoots).</p> <p>Maintained positive closure. Smooth, positive element lead in four-ship.</p> <p>Close Trail: Maintained one to two aircraft lengths behind lead, just below jetwash.</p> <p>Extended Trail: Complied with maneuver parameters.</p>	<p>Varied position considerably.</p> <p>Overcontrolled. Some procedural deviations.</p> <p>Slow to accomplish maneuver or rejoins.</p>	<p>Inability to perform the required maneuver or rejoin. Compromised safety in an attempt to accomplish the maneuver or rejoin.</p>
<p>Areas 96-98. Tactical (Wing):</p>	<p>Able to recognize the need for position corrections and initiate inputs toward regaining proper position including rejoins relative to lead.</p>	<p>Varied position considerably. Overcontrolled. Some procedural deviations. Slow to initiate corrections to proper position.</p>	<p>Exceeded Q- criteria.</p>

Grading Area	Grading Criteria		
	Q	Q-	U
Area 101-102. Formation Approach/Landing (Wing):	Maintained position with only momentary deviations. Smooth and immediate corrections. Maintained safe separation and complied with procedures and lead's instructions.	Varied position considerably. Overcontrolled.	Abrupt position corrections. Did not maintain safe separation. Unsafe wing position and (or) procedural deviations.
Area 103. Fluid Maneuvering (Wing):	Recognized changes in aspect, angleoff, closure, and range from lead aircraft. Recognized need for position corrections and maneuvered appropriately to maintain or regain position within prescribed parameters. Maintained or regained sight of lead aircraft	Varied position considerably.  Overcontrolled. Some procedural deviations.	Exceeded Q- criteria.
Area 104. Fighting Wing:	Maintained spacing and aspect angle according to MCMAN 11-238, Volume 1 (projected to be AFTTP XXX).	Varied position considerably. Overcontrolled. Some procedural deviations. Slow to accomplish rejoin.	Failed to maintain position, excessively late to accomplish rejoin.
Areas 105-109. Not Used.			
Area 110. AF Form 70 Maintenance:	Completed according to directives.	Completed according to directives. Minor deviations did not compromise safety.	Not completed according to directives, major deviations, or errors, which could compromise safety.
Area 111. In-flight Computations:	Timely and accurate based on flight conditions.	Slow to compute necessary in-flight computations. Only minor errors were made.	In-flight computations omitted where necessary for the safe conduct of the mission. Large errors made.
Area 112. Maintaining Course (VFR):	$\pm 5$ miles.	$\pm 10$ miles.	Exceeded Q- criteria.

Grading Area	Grading Criteria		
	Q	Q-	U
Area 113. VFR Arrival:	Performed VFR arrival according to procedures and techniques outlined in the flight manual, operational procedures, and local directives.	Performed VFR arrival with minor deviations to procedures and techniques outlined in the flight manual, operational procedures, and local directives.	VFR arrival not performed according to procedures and techniques outlined in the flight manual, operational procedures, and local directives.
Areas 114-119. Not Used			
Areas 120-129. Low-Level Procedures:	Read map and identified prominent landmarks along route. Navigated without the use of navigation instruments or controller directions. Maintained planned course $\pm 2$ NM. Reached each checkpoint and position aircraft within a $\pm 2$ NM radius; arrived at IP and target $\pm 1$ minute of preplanned or amended ETA computed at route entry. As soon as practicable after passing each en route fix, updated time/fuel planning. Maintained 500-1000 feet AGL unless obstacles or safety dictated. No abrupt altitude changes.	Maintained planned course within route corridor. Arrived at IP and target $\pm 2$ minutes of preplanned or amended ETA computed at route entry. Maintained altitude as qual, except no higher than 1500 feet AGL unless obstacles or safety dictated.	Exceeded Q- criteria.
Area 130. IFR Approach/ Landing:	Performed procedures as published or directed and according to flight manual. Smooth and timely response to controller instruction.	Performed procedures with minor deviations. Slow to respond to controller instruction.	Performed procedures with major deviations or erratic corrections. Failed to comply with controller instruction.



Grading Area	Grading Criteria		
	Q	Q-	U
Area 131. VFR Pattern/Landing:	Performed patterns or landings according to procedures and techniques outlined in the flight manual, operational procedures, and local directives. Aircraft control was smooth and positive. Accurately aligned with runway. Maintained proper or briefed airspeed or AOA. Airspeed -5 to +10 knots.	Performed patterns or landings with minor deviations to procedures and techniques outlined in the flight manual, operational procedures, and local directives. Aircraft control was not consistently smooth, but safe. Alignment with runway varied. Slow to correct to proper or briefed airspeed or AOA. Airspeed -5 to +15 knots.	Approaches not performed according to procedures and techniques outlined in the flight manual, operational procedures, and local directives. Erratic aircraft control. Large deviations in runway alignment. Exceeded Q- parameters.
Areas 132-139. Not Used.			
Area 140. Tactical Plan:	Well-developed plan included consideration of mission objectives, threat, and capabilities of flight members. Addressed contingencies in development of plan.	Minor omissions in the plan resulted in less-than-optimum achievement of objectives and detracted from mission effectiveness. Planned tactics resulted in unnecessary difficulty.	Major errors in the plan prevented accomplishment of stated objectives.
Area 141. Tactical Execution:	Applied tactics consistent with threat, current directives, and good judgment. Executed plan and achieved mission goals. Quickly adapted to changing environment. Maintained SA.	Minor deviations from tactical plan that did not result in an ineffective mission. Slow to adapt to changing environment. Poor situational awareness.	Unable to accomplish the mission due to major errors of commission or omission during execution of the plan. Situational awareness lost.
Area 142. GCI/AWACS/Composite Force Interface:	Effectively planned for and used GCI/AWACS to enhance mission and achieve objectives. No confusion between GCI/AWACS and fighters.	Minor confusion between GCI/AWACS and fighters. Less than optimum use of GCI/AWACS, which did not affect the fighter's offensive advantage.	Inadequate or incorrect use of GCI/AWACS resulted in loss of offensive potential.

Grading Area	Grading Criteria		
	Q	Q-	U
Area 143. Radio Transmission:	Radio communications (both inter- and intra-cockpit) were concise, accurate, and effectively used to direct maneuvers or describe the tactical situation.	Minor terminology errors or omissions occurred, but did not significantly detract from situational awareness, mutual support, or mission accomplishment. Extraneous comments over primary or secondary radios presented minor distractions.	Radio communications over primary or secondary radios were inadequate or excessive. Inaccurate or confusing terminology significantly detracted from mutual support, situational awareness, or mission accomplishment.
Area 144. Visual Lookout:	Demonstrated thorough knowledge and effective application of visual or radar lookout techniques for all phases of flight.	Demonstrated limited knowledge of visual or radar lookout techniques. Did not establish lookout responsibilities for all phases of flight. Slow to acquire threats to flight or targets to be attacked.	Demonstrated unsatisfactory knowledge and (or) application of visual or radar lookout responsibilities. Allowed threat to penetrate to short range undetected.
Area 145. Mutual Support:	Maintained mutual support during entire engagement, thus sustaining an offensive posture and (or) negating all attacks. Adhered to all engaged and support responsibilities.	Mutual support occasionally broke down, resulting in temporary confusion or the loss of an offensive advantage. Demonstrated limited knowledge of engaged and support responsibilities.	Mutual support broke down, resulting in the flight being put in a defensive position from which all attacks were not negated. Demonstrated inadequate knowledge of engaged and support responsibilities.
Area 146. Tactical Navigation: a. General:	Navigated to desired destination and remained geographically oriented during the tactical portion of the mission along the desired route. Altitude and route of flight reflected consideration for enemy threats. Maintained terrain awareness. Complied with established altitude minimums. Adhered to airspace restrictions.	Deviations from planned route of flight were recognized and corrected. Maintained terrain awareness. Altitude control contributed to exposure to threats for brief periods. Did not optimize terrain masking (if applicable).	Failed to locate desired destination. Deviations from planned route of flight exposed flight to threats. Violated airspace restrictions or altitude minimums. Poor airspeed or altitude control contributed to disorientation. Inadequate terrain awareness. Did not use terrain masking (if applicable).

	Grading Criteria		
Grading Area	Q	Q-	U
b. Medium Altitude:	Demonstrated satisfactory capability to adjust for deviations in time and course; only minor corrections required.	Medium level course and airspeed control resulted in large corrections. Minor error in procedures or use of navigation equipment.	Failed to recognize checkpoints or adjust for deviations in course. Major errors in procedures or use of navigation equipment.
c. Low Altitude:	Demonstrated satisfactory capability to adjust for deviations in time and course; only minor corrections required. Remained oriented within 2 NM of planned course or adjusted course and within route or airspace boundaries. Used terrain masking as circumstances allowed.	Low-level altitude and airspeed control resulted in large corrections. Remained oriented within 3 NM of planned course and (or) adjusted course within route boundaries.	Failed to recognize checkpoints or adjust for deviations in time and course. Exceeded low-level route boundaries. Did not use terrain masking if available and tactically required. Exceeded Q-parameters. Major errors in procedures or use of navigation equipment. Violated low-level regulations or restricted airspace.
Area 147. Ingress:	Aware of all known or simulated threats and defenses. Employed effective use of terrain masking and (or) route and altitude selection.	Ignored some of the known or simulated threats and defenses. Improper use of terrain masking and (or) route and altitude selection resulted in unnecessary exposure.	Failed to honor known or simulated threats and defenses, significantly reducing survivability. Failed to employ effective terrain masking and (or) route or altitude threat deconfliction.
Area 148. Egress:	Effectively used evasive maneuvers and terrain masking to complete an expeditious egress from the target area. Flight or element join-up was accomplished as soon as possible without undue exposure to enemy defenses.	Egress contributed to unnecessary exposure to threats and delayed flight join-up and departure from target area.	Egress caused excessive exposure to threats. Flight or element join-up was not accomplished or resulted in excessive exposure to threats.

Grading Area	Grading Criteria		
	Q	Q-	U
Area 149. Combat Separation:	Adhered to briefed or directed separation procedures. Positive control of flight or element during separation. Maintained mutual support with adversary unable to achieve valid simulated missile/gun-firing parameters.	Minor deviations from briefed or directed separation procedures. Limited control of flight or element during separation. Allowed mutual support to break down intermittently.	Did not adhere to briefed or directed separation procedures to the degree that an emergency fuel condition would have developed if allowed to continue uncorrected. Could not effectively separate from the engagement or could not regain mutual support.
Area 150. Timing: ( <b>NOTE:</b> Time will be based on preplanned time on target (TOT [ordnance impact]). Adjustments in TOT will be made for nonaircrew-caused delays. If range clearance is delayed, time at a preplanned IP may be substituted for TOT. The FE may widen this timing criterion if the examinee was forced to maneuver extensively along the ingress route due to simulated enemy air or ground defense reactions and (or) weather.)			
a. Conventional:	+/- 1 minute. Covered TOT.	+/- 2 minutes. Covered TOT.	Exceeded Q- parameters. Failed to cover TOT due to inadequate planning.
b. Air-to-Air Escort/Sweep/CAP:	Arrived on station not more than 1 minute late. Covered TOT.	Arrived on station not more than 2 minutes late. Covered TOT.	Exceeded Q- parameters. Failed to cover TOT due to inadequate planning or use of resources.
Area 151. Training Rules/ROE:	Adhered to and knowledgeable of all training rules/ROE.	Minor deviations. Made timely and positive corrections. Did not jeopardize safety of flight.	Significant deviations indicating a lack of knowledge of training rules or ROE.
Area 152. Threat Reactions:	Threat reactions were timely and correct.	Threat reactions were slow or inconsistent.	Numerous threat reactions were omitted or incorrect. Failed to perform maneuvers to counter threat.
Area 153. In-flight Report:	Gave accurate, precise in-flight reports in correct format.	Deviated from established procedures/format. Completed reports.	Failed to make in-flight reports. Unfamiliar with in-flight reporting procedures.

Grading Area	Grading Criteria		
	Q	Q-	U
Area 154. Weapons System Utilization: (A successful reattack following a dry pass caused by minor procedural errors during the delivery is an example of degraded weapons employment.)	Correctly utilized the weapon system to deliver the desired ordnance (actual or simulated). Executed all required procedures to successfully employ the weapon.	Late to prepare the weapon system to deliver the desired ordnance. Minor procedural errors degraded weapons employment.	Did not correctly prepare the weapon system to deliver the desired ordnance. Improper procedures during the attack resulted in unsuccessful weapons delivery.
Area 155. Offensive Maneuvering:	Effectively used BFM and ACM to attack and counter opposing aircraft. Good aircraft control. Effectively managed energy level during engagements.	Limited proficiency; did not effectively counter opposing aircraft. Occasionally mismanaged energy levels, jeopardizing offensive advantage.	Unsatisfactory knowledge or performance of maneuvers, aircraft handling, or energy management. Lost offensive advantage.
Area 156. Defensive Maneuvering:	Performed or directed correct initial move to counter attack of opposing aircraft. Used correct maneuvers to negate the threat.	Some hesitation or confusion during initial stages of counteroffensive or defensive situation. Minor errors in energy management or BFM delayed negating the attack of an opposing aircraft.	Unable to negate or direct maneuvers to negate attack of opposing aircraft.
Area 157. Weapons Employment: (Snapshots assessed as misses may be discounted from computations if attacks were tactically sound and attempted within designated parameters.)	Demonstrated proper knowledge of missile or gun-firing procedures and attack parameters. Simulated missile, or gun-firing were accomplished at each opportunity and within designated parameters.	Demonstrated limited knowledge of missile or gun-firing procedures and attack parameters. Simulated employment of weapons was successful, but made minor errors that did not affect overall result. Slow to recognize appropriate parameters.	Demonstrated inadequate knowledge of missile, rocket, or gun-firing procedures or attack parameters. Attempts to simulate weapons employment were unsuccessful due to aircrew error. Did not meet Q- criteria.

Grading Area	Grading Criteria		
	Q	Q-	U
Area 158. Target Acquisition:	Target acquired on the first attack or, if missed due to difficult target identification features, a successful reattack was accomplished. For multiple-target scenarios, all targets were acquired on the first attack or with a successful reattack. (A successful reattack is defined as being within parameters to effectively employ the planned weapons against the target.)	Late to acquire the target, degraded the initial attack or reattack. For multiple-target scenarios, 50 percent or more of the targets were acquired on the first attack or with a successful reattack.	Target was not acquired. For multiple target scenarios, less than 50 percent of the targets were acquired on the first attack or with a successful reattack.
<p>Weapons Employment. <b>NOTES:</b></p> <p>1. Scoreable Ranges. When weapons deliveries are performed on different ranges during the same mission, or like deliveries constituting separate events are performed on the same range, all events will be evaluated and the area grade will be predicated upon the criteria below. When the examinee is not occupying his primary crew position, the weapons qualification portion of this area is not applicable.</p> <p>2. Unscoreable Ranges. A successful pass will be determined by the FE based on the examinee's ability to achieve valid release parameters or impact of the ordnance..</p>			
Area 159. Weapons Employment:	Demonstrated complete knowledge of weapons delivery procedures, attack parameters, and weapons computations for the events performed. Able to achieve valid release parameters on 50 percent of all events attempted.	Demonstrated minor errors in knowledge of weapons delivery procedures, attack parameters, or weapons computations for the events performed. Able to achieve valid release parameters on less than 50 percent of all events attempted.	Demonstrated inadequate knowledge of weapons delivery procedures, attack parameters, or weapons computations for the events flown. Failed to deliver ordnance on original attack or reattack due to aircrew error (switch error, navigation error, etc.). unable to achieve valid release parameters.
Area 160. Range Procedures:	Used proper procedures for entering and exiting the range. Range operations followed established procedures.	Minor deviations from established procedures for range entry, exit, or operations.	Major deviations from established procedures for range entry, exit, or operations.

	Grading Criteria		
Grading Area	Q	Q-	U
Areas 161-169. Not Used			
Area 170. Emer- gency Procedures:	Displayed correct, imme- diate response to BOLD- FACE or CAPs and non-BOLDFACE emer- gency situations. Effec- tively used checklist.	Response to BOLDFACE or CAPs emergencies was correct. Response to cer- tain areas of non-BOLD- FACE emergencies or follow-on steps to BOLD- FACE procedures was slow or confused. Used the checklist, but slow to locate required data.	Incorrect response for BOLDFACE or CAPs emergency. Unable to analyze problems or take corrective action. Did not use checklist, or lacks acceptable familiarity with its arrangement or contents.
Area 171. Gen- eral Knowledge:	Demonstrated thorough knowledge of aircraft sys- tems, limitations, and per- formance characteristics.	Knowledge of aircraft systems, limitations, and performance characteris- tics sufficient to perform the mission safely. Dem- onstrated deficiencies either in depth of knowl- edge or comprehension.	Demonstrated unsatisfac- tory knowledge of aircraft systems, limitations, or performance characteris- tics.
a. Aircraft Gen- eral			
b. Flight Rules/ Procedures:	Thorough knowledge of flight rules and proce- dures.	Deficiencies in depth of knowledge.	Inadequate knowledge of flight rules and proce- dures.
c. Weapon/Tac- tics/ Threat (if applica- ble):	Thorough knowledge of all aircraft weapons sys- tems, weapons effects, tactics, and threats appli- cable to the unit mission.	Deficiencies in depth of knowledge or comprehen- sion of weapons systems, weapons effects, tactics, and threat knowledge that would not prevent suc- cessful mission accom- plishment.	Insufficient knowledge of weapons, tactics, and threat contributed to inef- fective mission accom- plishment.
d. Local Area Procedures:	Thorough knowledge of local procedures.	Limited knowledge of local procedures.	Inadequate knowledge of local procedures.

Grading Area	Grading Criteria		
	Q	Q-	U
Area 172. Instruction: a. Briefing/ Debriefing:	Presented a comprehensive, instructional briefing or debriefing, which encompassed all mission events. Made excellent use of training aids. Gave excellent analysis of all events or maneuvers. Clearly defined objectives.	Minor errors or omissions in briefing, debriefing, or mission critique. Occasionally unclear in analysis of events or maneuvers.	Major errors or omissions in briefing or debriefing. Analysis of events or maneuvers was incomplete, inaccurate, or confusing. Did not use training aids or reference material effectively. Briefing or debriefing below the caliber of that expected of instructors. Failed to define mission objectives.
b. Demonstration of Maneuvers:	Performed required maneuvers within prescribed parameters. Provided concise, meaningful in-flight commentary. Demonstrated excellent instructor proficiency.	Performed required maneuvers with minor deviations from prescribed parameters. In-flight commentary was sometimes unclear.	Was unable to properly perform required maneuvers. Made major procedural errors. Did not provide in-flight commentary. Demonstrated below average instructor proficiency.
c. Instructor Knowledge:	Demonstrated in-depth knowledge of procedures, requirements, aircraft systems or performance characteristics, mission, and tactics beyond that expected of noninstructors.	Deficiencies in depth of knowledge, comprehension of procedures, requirements, aircraft systems or performance characteristics, mission, or tactics.	Unfamiliar with procedures, requirements, aircraft systems or performance characteristics, mission, or tactics. Lack of knowledge in certain areas seriously detracted from instructor effectiveness.
d. Ability to Instruct:	Demonstrated excellent instructor or evaluator ability. Clearly defined all mission requirements and any required additional training or corrective action. Instruction or evaluation was accurate, effective, and timely. Was completely aware of aircraft or mission situation at all times.	Problems in communication or analysis degraded effectiveness of instruction or evaluation.	Demonstrated inadequate ability to instruct or evaluate. Unable to perform, teach, or assess techniques, procedures, systems use, or tactics. Did not remain aware of aircraft or mission situation at all times.



	Grading Criteria		
Grading Area	Q	Q-	U
e. Grading Practices:	Completed appropriate training or evaluation records accurately. Adequately assessed and recorded performance. Comments were clear and pertinent.	Minor errors or omissions in training or evaluation records. Comments were incomplete or slightly unclear.	Did not complete required forms or records. Comments were invalid, unclear, or did not accurately document performance.
Area 173. Publications:	Publications were current, contained all supplements/changes and were properly posted.	Publications contained deficiencies which would not impact flight safety or mission accomplishment.	Publications were outdated and (or) contained deficiencies which would impact flight safety or mission accomplishment.

PATRICK K. GAMBLE, Lt General, USAF  
DCS/Air and Space Operations

**Attachment 1****GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

AFPD 11-2, *Aircraft Rules and Procedures*

AFI 11-2T/AT-38, Volume 1, *T-38 and AT-38 Pilot Training*

AFI 11-202, Volume 2, *Aircrew Standardization/Evaluation Program Organization and Administration*

AFI 11-205, *Aircraft Cockpit and Formation Flight Signals*

AFMAN 11-217, *Instrument Procedures*

AFMAN 37-139, *Records Disposition Schedule*

MCMAN 11-238, Volume 1, *(A)T-38 Flying Fundamentals* (projected to be AFTTP XXX)

***Abbreviations and Acronyms***

**ACM**—air combat maneuver

**AFORMS**—Air Force Operations Resource Management System

**AGL**—above ground level

**AOA**—amphibious objective area (Joint Publication 1-02)

—[angle of attack] {Air Force only}

**ASR**—approach surveillance radar

**AVTR**—audio/video tape recorder

**AWACS**—airborne warning and control system

**BFM**—basic fighter maneuver

**CAP**—combat air patrol; Civil Air Patrol; crisis action planning; configuration and alarm panel (Joint Publication 1-02)

—[critical action procedure] {Air Force only}

**CF**—drift error confidence factor; causeway ferry (Joint Publication 1-02)

—[composite force] {Air Force only}

**CPT**—cockpit procedures trainer

**CRO**—criterion referenced objective

**EAC**—emergency action console; echelons above corps (Joint Publication 1-02)

—[expect approach clearance] {Air Force only}

**ENJJPT**—Euro-NATO joint jet pilot training

**EPE**—emergency procedures evaluation

**ETA**—estimated time of arrival

**EWO**—electronic warfare officer

**FCIF**—flight crew information file

**FE**—flight examiner

**FL**—flight lead

**FP**—first pilot

**G**—gravitational force

**GCI**—ground control intercept

**HHQ**—higher headquarters

**IFF**—identification friend or foe, Introduction to Fighter Fundamentals

**IFR**—instrument flight rules

**ILS**—Instrument Landing System

**IMC**—instrument meteorological conditions

**IP**—instructor pilot

**IRC**—International Red Cross (Joint Publication 1-02)

—[instrument refresher course] { Air Force only }

**KIAS**—knots indicated airspeed

**MAJCOM**—major command (USAF)

**MAP**—Military Assistance Program; missed approach procedure (Joint Publication 1-02)

—[missed approach point] { Air Force only }

**MDA**—minimum descent altitude

**NAVAID**—navigational aids

**NF**—no-flap

**NGB**—National Guard Bureau

**NM**—nautical mile

**PAR**—precision approach radar

**PIT**—pilot instructor training

**RCP**—resynchronization control panel (Joint Publication 1-02)

—[rear cockpit] { Air Force only }

**ROE**—rules of engagement

**SA**—stand-alone switch; security assistance; selective availability (GPS); senior adviser (Joint Publication 1-02)

—[situational awareness] { Air Force only }

**SE**—single engine

**stan/eval**—standardization/evaluation

**St-In**—straight-in

**SUPT**—specialized undergraduate pilot training

**TACAN**—tactical air navigation

**TOT**—time on target

**VDP**—visual descent point

**VFR**—visual flight rules

**VOR**—very high frequency omnidirectional range station

**VVI**—vertical velocity indicator